

What is claimed is:

1. A spherical lens having a diameter less than 10 $\mu$ m, and used for its optical properties.

2. A device as in claim 1, wherein said optical altering properties are lensing properties.

3. A device as in claim 1, wherein said structure has at least one cross section that is circular.

4. A device as in claim 3, wherein said structure is spherical.

5. A device as in claim 4, where said device is made of polystyrene latex.

6. A device as in claim 4, where said device is made of glass.

7. A device as in claim 1 consisting of multiple lens elements attached together.

8. A sensor comprising:

first and second optical elements, each less than 10  $\mu$ m in diameter;

an optical sensor, receiving light that has passed through said first and second optical elements; and

a processing element, processing said light to determine information about a spatial orientation of said first and second optical elements.

9. A sensor as in claim 8, wherein said processing element determines rotation.

10. A sensor as in claim 8, wherein said second optical element has a different optical characteristic than said first optical element.

11. A sensor as in claim 8, wherein said different optical characteristic is fluorescence.

12. A sensor as in claim 9, wherein said rotation is detected by intensity of light that is received.

13. A method of focusing light, comprising:

using a polymer element which has at least one circular cross section, and has a diameter of said circular cross section that is less than 10 $\mu$ m, to focus light.

14. A method as in claim 13, wherein said using comprises using in an optical microscope.

15. A method as in claim 13, wherein said using comprises scanning the element.

16. A method as in claim 15, wherein such scanning is accomplished by holding the particle in optical tweezers and scanning the optical tweezers.

17. A method as in claim 13, wherein said using comprises attaching said latex element to a surface.

18. A method as in claim 17, wherein said attaching uses a chemical or biochemical methods.

19. A method as in claim 17, wherein said biochemical method comprises biotin and streptavidin linking.

20. A method as in claim 17, wherein said attaching comprises melting said latex element to said surface.

21. A method as in claim 17, wherein said surface is a surface of a laser.

22. A method as in claim 17, wherein said surface is a surface of an optical fiber.